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ABSTRACT

This module cluster developed for the Camden Teacher Crops project is intended to enable students to improve their teaching abilities in arithmetic. Emphasis is placed on how to teach rather than on what to teach. The following modules are included in this document: a) Arithmetic Resource Materials--On Hand; b) Long Term (4-6 Weeks) Arithmetic Objectives; c) Short Term (Daily) Arithmetic Objectives; d) Selection of Arithmetic Material Consistent with Established Objectives; e) Continuous Measurement of Pupil Progress in Arithmetic; f) Arithmetic Resource Materials--Available Commercially; g) Teaching Arithmetic I; h) Teaching Arithmetic II; and i) Teaching Arithmetic III. For each module an objective is stated as well as prerequisite, preassessment, instructional materials, postassessment, and remediation activities. (JA)

ED 090186

Module Cluster: ATP - 001.00 (GSC)

Arithmetic - Teaching Principles for Elementary Classroom Use

Dr. George Brent

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SP 007 916

Department of Elementary Education

State of New Jersey
GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY 08028

August 6, 1973

Dear Colleague:

Our involvement in the Camden Teacher Corps Project has resulted in the development of several module clusters. The clusters are the primary mode of instruction in this competency-based teacher education program. The program follows the guidelines set forth by the U.S. Office of Education, Department of H E W.

Many of these modules are based on a list of teacher competencies which has been developed by members o the Elementary Education Department. The list represents the core competencies and is intended to be representative of a behavioral approach to teaching. These competencies comprise the nucleus of Glassboro's teacher education program.

All these modules specify competencies and describe a scenario for self-paced learning in a field oriented setting. Clearly this is a process which is in marked contrast to the accumulation of credits acquired primarily in college classrooms.

We invite your use, criticism, and refinement of these modules as a means of joining us in creating a more generative climate for developing competent, open, and hopefully healthy-minded teachers.

Sincerely yours,

F. Goodfellow

Frank Goodfellow
IHE Coordinator, Camden Teacher
Corps Project
Chairperson, Elementary Education Dept.

Instructions for Using a Glassboro State College Modular Cluster

A Glassboro State College Modular Cluster aims at arranging a learning experience in a very specific way. The goal of the cluster is to facilitate successful, self-paced learning for the student.

1. Glassboro State College modular clusters are intended to be used by students with the cooperation of an instructor. The instructor will give a brief explanation about the particular modular cluster. This should include the rationale for the cluster as well as general arrangement for completing the module.

2. After the initial meeting with the instructor, the student can begin work on the modular cluster. Within a cluster the modules are presented sequentially.

3. When a student begins to study a module, he should first read the Objective, Prerequisite, and Pre-assessment sections. A number of alternatives are then available. For example, the student may decide after reading the Pre-assessment procedures, that he is competent in that area. He may then complete the entire Pre-assessment and discuss the results with the instructor. The instructor will then be able to verify the student's competence.

4. A second choice is possible if the student feels unsure of the material as presented in the Pre-assessment. He can then skip the Pre-assessment and complete the module step by step, including the Post-assessment procedures.

5. The instructor will consult with the student after the Post-assessment is completed. At this point, if the student and instructor feel the competency involved has been demonstrated, the student will move to the next module in the cluster. If the Post-assessment reveals some deficiency, remediation will be assigned and another form of Post-assessment will then be used.

Reference System Designation:	ATP - 001.00 (GSC)
Program:	Seventh Cycle Teacher Corps Program at Glassboro State College, Glassboro, N. J.
Component:	Arithmetic Teaching Practices
Module Cluster:	Arithmetic - Teaching Principles for Elementary Classroom Use
Developer:	Dr. George Brent
Date of Development:	Spring, 1973

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ATP-001.00 (GSC) Arithmetic Teaching Principles for Elementary Classroom Use.

General Objectives of Module Cluster

The purpose of this module cluster is to enable students to improve their teaching abilities in Arithmetic. Emphasis is placed on how to teach rather than what to teach.

Prerequisites to the Module Cluster

1. Module Cluster: TTP-001.00 (GSC)
2. Course: Structures of Arithmetic or equivalent

Modules Within the Module Cluster

This module cluster contains nine modules. These are as follows:

ATP-001.01 (GSC) Arithmetic Resource Materials - On Hand

ATP-001.02 (GSC) Long Term (4-6 Weeks) Arithmetic Objectives

ATP-001.03 (GSC) Short Term (Daily) Arithmetic Objectives

ATP-001.04 (GSC) Selection of Arithmetic Materials Consistent With Established Objectives

ATP-001.05 (GSC) Continuous Measurement of Pupil Progress in Arithmetic

ATP-001.06 (GSC) Arithmetic Resource Materials - Available Commercially

ATP-001.07 (GSC) Teaching Arithmetic I

ATP-001.08 (GSC) Teaching Arithmetic II

ATP-001.09 (GSC) Teaching Arithmetic III

ATP-001.00 (GSC) Arithmetic Resource Materials - On Hand

Objective

(1) Given a specific classroom, (2) the student will be able to inventory on hand arithmetic materials. The inventory should list the type, suitability for group and/or individual instruction, level, and location of materials. A separate part of the inventory should refer to the student's own classroom. Curriculum guides should be considered as resource materials. (3) Completeness of inventory will be assessed and verified by classroom teacher.

Prerequisite

None

Pre-Assessment

Recently completed inventories may be submitted.

Instructional Activities

1. Consult with cooperating teacher on classroom resources.
2. Consult with principal on building resources.
3. Consult with peers on total building resources.

Post-Assessment

Recently completed inventories will be submitted.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

ATP-001.02 (GSC) Long Term (4 6 Weeks) Arithmetic Objectives

Objective

(1) Given a real or simulated classroom situation, (2) the student will be able to write long term arithmetic objectives for an instructional group. (3) The objectives should be judged by the instructor to be consistent with the curriculum and reasonable for the specific group.

Prerequisite

ATP-001.01

Pre-Assessment

The student may submit examples of long term objectives that he/she has written.

Instructional Activities

1. Read Behavioral Objectives Distar Arithmetic I, II.
2. Read relevant curriculum guides.
3. Establish, in consort with the cooperating teacher, long term objectives for your classroom's instructional groups.

Post-Assessment

The student will submit examples of long term objectives that he/she has written.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

ATP-001.03 (GSC) Short Term (Daily) Arithmetic Objectives

Objective

(1) Given a real or simulated classroom situation, (2) the student will be able to write short term (daily) arithmetic objectives for an instructional group. (3) The objectives should be judged by the instructor to be consistent with the curriculum and reasonable for the specific group.

Prerequisite

ATP-001.02 (GSC)

Pre-Assessment

The student may submit examples of short term objectives that he/she has written.

Instructional Activities

1. Read Behavioral Objectives Distar Arithmetic I, II.
2. Read relevant curriculum guides.
3. Establish, in consort with the cooperating teacher, short term objectives for your classroom's instructional groups.

Post-Assessment

The student will submit examples of short term objectives that he/she has written.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

ATP-001.04 (GSC) Selection of Arithmetic Materials Consistent With Established Objectives

Objective

(1) Given short term objectives, (2) the student will be able to select arithmetic materials consistent with the stated short term (daily) objectives. (3) The material should be judged to be consistent by the instructor.

Prerequisite

ATP-001.03 (GSC)

Pre-Assessment

Examples of short term objectives and materials used may be submitted.

Instructional Activities

1. Examine SRA Arithmetic Facts Kit.
2. Attend seminar.
3. Discuss teaching plans (objectives and material) with cooperating teacher.

Post-Assessment

Examples of short term objectives and materials used will be submitted.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

ATP-001.05 (GSC) Continuous Measurement of Pupil Progress in Arithmetic

Objective

(1) Given an arithmetic group, (2) the student will be able to -

a. Assess in terms of accuracy and rate the level of achievement (in regard to the long range objective) for each pupil.

b. Maintain continuous (daily) assessment in terms of accuracy and rate for each pupil.

(3) Procedures should be judged by the instructor to be consistent with the standards set by Precision Teaching.

Prerequisite

ATP-001.04 (GSC)

Pre-Assessment

The student may submit data showing that the objective has been completed.

Instructional Activities

1. Read pp. 7-35 and 106-107 in Precision Teaching.

2. Attend seminar.

3. Plan for continuous measurement procedures with the help of the cooperating teacher.

Post-Assessment

The student will submit date showing that the objective has been completed.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

ATP-001.06 (GSC) Arithmetic Resource Materials - Available Commercially

Objective

(1) Given the opportunity, (2) the student will be able to -

a. List two resources for individual and two for group arithmetic work available commercially. (Materials must be suitable for the student's teaching level.)

b. Describe the main features of Distar Arithmetic I. (See separate sheet listing main features.)

3) Adequacy of resources will be judged by the instructor. Main features of Distar should include all those listed in study guide.

Prerequisite

ATP-001.05 (GSC)

Pre-Assessment

The student may submit data showing that the objective has been completed.

Instructional Activities

1. Read relevant parts of three (3) instructional materials catalogs.

2. Examine the Distar Arithmetic I or II program using the guide sheet.

Post-Assessment

The student will submit data showing that the objective has been completed.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

ATP-001.07 (GSC) Teaching Arithmetic I

Objective

(1) Given an arithmetic group, (2) the student will be able to -

a. Write a long range (4-6 week) objective for an instructional group.

b. Write short term (daily) objectives for each pupil.

c. Assess in terms of accuracy and rate the level of achievement (in regard to the long range objective) for each pupil.

d. Implement an instructional program for each pupil that allows daily success and reinforces the completion of accurate work.

(3) Work must be entirely consistent with the standards set by Precision Teaching.

Prerequisite

ATP-001.06

Pre-Assessment

The student may submit data recorded for at least two weeks indicating that the specifications included in the objective were previously completed.

Instructional Activities

1. Read Behavioral Objectives Dis\ar Arithmetic I, II.

2. Read "Modification of arithmetic response rate . . ." (JABA, 5, 79-84)

3. Read 'Effects of Manipulating an Antecedent Event . . ." (JABA, 1, 329-333)

4. Read "Applying Precision Teaching to Academic Assessment." (Teaching Exceptional Children, 3, 147-150).

5. Attend seminar.

ATP-001.07 (GSC) Teaching Arithmetic I

Post-Assessment

The student will submit a report showing that the specifications included in the objective have been completed. The instructor will review the report with the student.

Remediation

No remediation activities have been predetermined These would be decided upon by the student in consort with his faculty advisor and/or team leader.

ATP-001.08 (GSC) Teaching Arithmetic II

Objective

(1) Given an arithmetic group, (2) the student will be able to -

a. Write a long range (4-6 week) objective for an instructional group.

b. Write short term (daily) objectives for each pupil.

c. Assess in terms of accuracy and rate the level of achievement (in regard to the long range objective) for each pupil.

d. Implement an instructional program for each pupil that allows daily success and reinforces the completion of accurate work.

e. Maintain continuous (daily) assessment in terms of accuracy and rate for each pupil.

(3) Work must be entirely consistent with the standards set by Precision Teaching.

Prerequisite

ATP-001.07

Pre-Assessment

The student may submit data recorded for at least two weeks indicating that the specifications included in the objective were previously completed.

Instructional Activities

1. Read Behavioral Objectives Distar Arithmetic I, II.

2. Read "Modification of arithmetic response rate. . . " (JABA, 5, 79-84)

3. Read "Effects of Manipulating an Antecedent Event. . . " (JABA, 1, 329-333)

4. Read "Applying Precision Teaching to Academic Assessment." (Teaching Exceptional Children, 3, 147-150).

5. Attend seminar.

ATP-001.08 (GSC) Teaching Arithmetic II

Post - Assessment

The student will submit a report showing that the specifications included in the objective have been completed. The instructor will review the report with the student.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

ATP-001.09 (GSC) Teaching Arithmetic III

Objective

(1) Given an arithmetic group, (2) the student will be able to -

a. Write a long range (4-6 week) objective for an instructional group.

b. Write short term (daily) objectives for each pupil.

c. Assess in terms of accuracy and rate the level of achievement (in regard to the long range objective) for each pupil.

d. Implement an instructional program for each pupil that allows daily success and reinforces the completion of accurate work.

e. Maintain continuous (daily) assessment in terms of accuracy and rate for each pupil.

f. Change (a) materials, (b) presentation methods, (c) childs method of responding, or (d) reinforcer if assessment indicates learning is not taking place.

(3) All procedures must be judged by the instructor to be consistent with the procedures set by Precision Teaching.

Prerequisite

ATP-001.08 (GSC)

Pre-Assessment

The student may submit data recorded for at least two weeks indicating that the specifications included in the objective were previously completed.

Instructional Activities

1. Read Behavioral Objectives Distar Arithmetic I, II.

2. Read "Modification of arithmetic response rate . . ." (JABA, 5, 79-84)

3. Read "Effects of Manipulating an Antecedent Event . . ." (JABA, 1, 329-333)

4. Read "Applying Precision Teaching to Academic Assessment." (Teaching Exceptional Children, 3, 147-150).

5. Attend seminar.

ATP-001.09 (GSC) Teaching Arithmetic III

Post-Assessment

The student will submit a report showing that the specifications included in the objective have been completed. The instructor will review the report with the student.

Remediation

No remediation activities have been predetermined. These would be decided upon by the student in consort with his faculty advisor and/or team leader.

Check-off Sheet for Modules in ATP - 001.00 (GSC) *

Modules	Date	Instructor Signature
.01	_____	_____
.02	_____	_____
.03	_____	_____
.04	_____	_____
.05	_____	_____
.06	_____	_____
.07	_____	_____
.08	_____	_____
.09	_____	_____

Student Signature: _____

* To be completed in duplicate

About The College

Located in South Jersey, Glassboro State College is just 20 miles southeast of Philadelphia and Camden. Twenty-five buildings fill the 200 acres of this co-educational college, which has 6,000 full-time and 6,000 part-time students.

GSC offers bachelor's degrees in 3 major areas: professional studies, arts and sciences and fine and performing arts.

In professional studies we offer teaching degrees in areas ranging from elementary through high school.

You can major in one of 15 programs in the arts and sciences, including communications, journalism, law/justice, political science, chemistry and administrative studies (accounting, marketing, management).

In fine and performing arts we offer degrees in art, music and speech and theatre.

GSC also offers an M.A. degree in 20 areas of teacher education.